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Working Paper

Five traps for German economic policy

Kieler Diskussionsbeiträge, No. 185

Provided in cooperation with:
Institut für Weltwirtschaft (IfW)

KIELER DISKUSSIONSBEITRÄGE

KIEL DISCUSSION PAPERS

185

Five Traps for German Economic Policy

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INSTITUT FÜR WELTWIRTSCHAFT KIEL · APRIL 1992

ISSN 0455-0420

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Deutsche Bibliothek - Cataloguing-in-Publication Data

Siebert, Horst:
Five Traps for German Economic Policy / by Horst Siebert.
Institut für Weltwirtschaft, Kiel. - Kiel : Inst. für Weltwirtschaft,
1992
(Kiel discussion papers; 185)
ISBN 3-89456-025-8
NE: Kieler Diskussionsbeiträge

ISSN 0455 - 0420

1. Policy Risks in the Transformation of East Germany

East Germany can be considered a laboratory experiment in the economics of transition. Of the three major issues of economic reform in the transformation process [Siebert, 1991c], two were solved nearly instantaneously. Monetary stabilization was achieved by extending the currency area of the D-mark to East Germany in the currency union of July 1, 1990. And the institutional infrastructure was, in principle, introduced with one stroke when East Germany joined West Germany according to Article 23 of the German constitution. Thus, only the third major area of reform remains to be solved, namely the real adjustment in the economy, especially in the previously state-owned firms. The transformation of the East German economy thus can be viewed to be a specific exercise in real economic adjustment.

In this paper, I look at some of the risks that may arise from the transformation process in east Germany for German economic policy. Some factors which represented risks in 1990 no longer do so because prima vista they have already had either positive or negative outcomes (Section 2). The remaining risks relate to getting trapped on a low level of development in east Germany (Section 3), to privatization getting stuck (Section 4), to an explicit structural policy (Section 5), to the persistence of the second labor market (Section 6), and to transfers turning into a burden for Germany as a whole (Section 7). Some conclusions are drawn in Section 8.

2. Three Risks from Hindsight

Two years ago, one major risk of German unification was the political mechanism by which the two Germanies would merge. More specifically, the debate on a revision of the constitution between independent states would have required one or two years; this would have been associated with high economic uncertainty, negatively affecting public transfers into East Germany, reducing

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*I appreciate comments from Alfred Boss, Ralph Heinrich, Michael Hüther, and Klaus-Dieter Schmidt.

private capital flows, raising interest rates, and depreciating the D-mark. This risk has not materialized due to East Germany accepting the German constitution, which will now be revised under different conditions.

Another risk related to inflationary pressures due to the conversion rate chosen in extending the currency area of the D-mark to East Germany in the currency union. Judging from the inflation rate for West Germany of 2.7 percent in 1990 and 3.5 percent in 1991, one may come to the conclusion that the inflationary risk did not materialize. Looking more closely, the file cannot be closed yet. From May 1990[1] to May 1991, M-3 increased by 20 percent [Bundesbank, Monatsberichte]. Taking into account that the production of east Germany accounted for 6.9 percent of the west German level in 1991 and allowing for a normal increase in the money supply of 5 percent in west Germany, there was, arithmetically, an excess supply of money amounting to 8 percent of the total money supply. Note that the interest rate structure was slightly positive in 1990.

The above calculation, however, is somewhat misleading because east Germans are not yet used to the portfolio choices typical of a market economy and money serves as a substitute of nonmonetary financial assets. Thus, money balances held by the nonbanking sector do not necessarily represent a direct source of inflationary pressure. Sight deposits are, however, available for credit expansion; moreover, once money balances are dissolved and being spent on other assets, the adjustment of portfolios may influence the money supply. Finally, it is hard to say to what extent this portfolio aspect compensates for the arithmetical excess supply. Thus, the question remains whether the monetary coat of 1990 had oversize.

In any case, the Bundesbank followed a policy of mopping up some of the excess supply of money, thus reducing the rate of increase

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[1] The figure for June 1990 was already affected by the currency union.

in the money supply in the first half of 1991. The interest rate structure became inverse in 1991, pointing to a restrictive monetary policy. Thus, the currency union had implications in 1991.[2] Moreover, if one takes into account that there is a time lag of two years and more until the increase in the money supply affects the price level [Scheide, 1991; Bundesbank, Monatsbericht January 1992], the price increase in 1991 and 1992 may be, in part, the result of the 1990 increase in the money supply. Last but not least, the change in the price level will affect wage demands in west Germany in 1992.

We also know more about the third risk factor of the year 1990, namely wage costs. From the second quarter of 1990 to the fourth quarter of 1991, the effective wage per employee in east Germany rose by 64 percent. At the end of 1991, wage contracts for east Germany were concluded, reaching 60-65 percent of the west German nominal level; the Sachverständigenrat expects that on average east German employees will reach 70 percent of the west German contract wage level in 1992. In April 1991, the effective wage income per employee was 47.1 percent of the west German level [Sachverständigenrat, 1991b].

The wage increases in east Germany have caused repercussions in a number of areas. They have made investment less profitable. While they will not greatly affect capital-intensive projects of west German or international firms who invest in east Germany, they will have a negative impact on the birth of new and small firms which face uncertain revenue, since they are not yet established in the market. Adjustment of the old state firms is made more difficult. The demand for labor in the adjustment phase will be reduced, thus leading to higher unemployment and a greater need for government programs and transfers. Moreover, the wage level influences social security payments. Thus, wage policy in east Germany directly affects fiscal policy.

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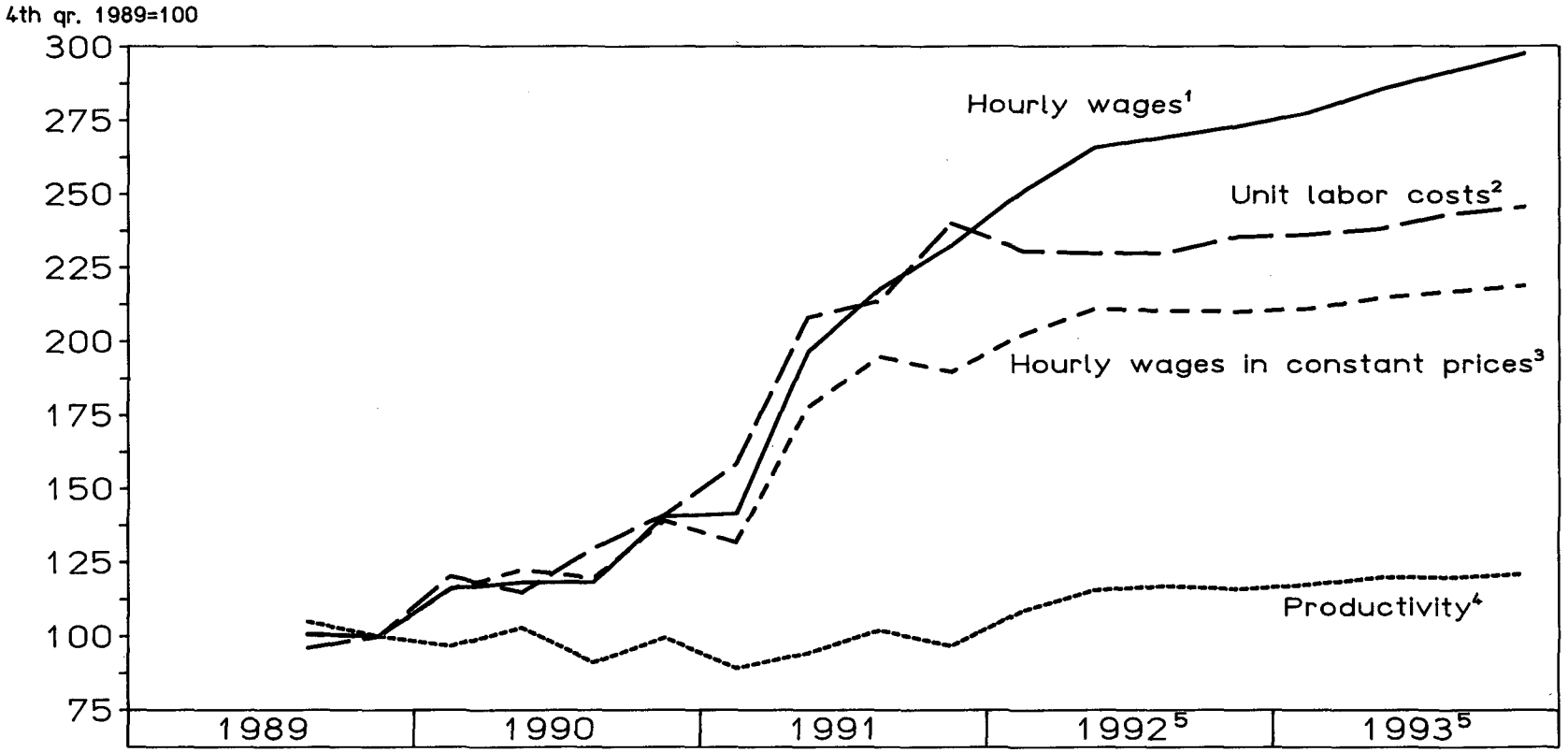
[2] The conversion rate influenced the aspiration level of people in east Germany and therefore increased the pressure for higher wages.

Figure 1 - Wages, Productivity, and Unit Labor Costs in Eastern Germany, 1989-1993



[1]Gross wage and salary income per hour. - [2]Gross wage and salary income / GDP in constant prices. - [3]Gross wage and salary income / deflator of private consumption. - [4]GDP in constant prices / total number of man-hours worked. - [5]Forecast.

Source: DIW [1992]; own calculations and estimates.

3. Will the Potential Growth Process Become Trapped?

The negative supply shock. The most important question for the future is whether a self-sustained growth process will start in east Germany. We know very well from the economics of transition [Siebert, 1991a; Long and Siebert, 1991] that the transition from a centralized socialist planning system to a market economy presents a shock to the representative socialist firm, changing all its constraints, including the price vector. For the overwhelming number of firms, this shock can be modelled as a sudden unexpected drop in the producer's price. This implies that the capital stock of the firm or the firm itself as a net of contractual relationships becomes largely obsolete.

If we aggregate over all firms, the capital stock of the economy becomes obsolete to a considerable degree. It has to be rebuilt through investment. Human capital in its given occupations is also partly made obsolete, although the qualifications of east German workers are judged as being not too different from those of west Germans. By reallocating and retraining the work force, human capital can adjust. The concept of obsoleteness can also be applied to infrastructure capital, which has to be improved and restructured. Another stock variable that is made obsolete is the spatial structure of the economy. Last but not least, the capital of nature, the environment, which was polluted in the old system, will have to be restored.

For the adjustment process of the economy in transition to a market system, we obtain a J-curve of aggregate output, which falls abruptly and eventually catches up with the adjustment of firms going on and new firms coming into existence. In 1991, the bottom of the J-curve of output was reached in east Germany. Output of the manufacturing industry was at one-third of the 1989 level; GNP was DM 193.1 billion in 1991, 6.9 percent of the west German level (whereas population is 25 percent).

A self-sustained growth process has not yet begun. Aggregate domestic demand of east Germany amounted to DM 361.2 billion in 1991, i.e., 187 percent of GNP (Table A2). The trade deficit was

DM 168.1 billion. Aggregate demand is financed by transfers which are estimated at DM 145 billion for the government sector.

Catching-up calculations. A simple formula tells us how much time is needed for east Germany to catch up with west Germany. Consider a situation where east Germany reaches 80 percent of the west German level of GNP per capita. This is not an unrealistic figure, since in west Germany some regions reach a similar percentage. Then, everything depends on the difference in the real growth rates between east and west Germany. Table 1 shows for various growth differentials the years needed to reach the 80 percent level.[3] Such calculations should be taken with some caution. It is quite conceivable that in specific years high growth rates in the 15-20 percent range will occur in east Germany.

Table 1 - Time Needed to Reach 80 Percent of the West German Level of GNP Per Capita

Growth differential	Years
5	21.2
8	13.2
10	10.6
15	7.1
17	6.2
20	5.3
25	4.2

[3] Let Y_{91}^{W} and Y_{91}^{E} be the initial GNP per capita in west and east Germany, let α be the level to be reached, let $\beta = 0.25$ indicate the size of the east German population relative to west Germany, and let r^{W} and r^{E} denote the growth rates, then

$$\alpha\beta Y_{91}^{W} \ (e^{r^{W}t}) = Y_{91}^{E} \ (e^{r^{E}t}) \quad \text{and thus}$$

$$t = \frac{\ln(Y^{E}/Y^{W}) - \ln\alpha\beta}{r^{W} - r^{E}} \ .$$

Capital requirements and output effects. Assuming that east Germany will have the same capital stock per capita as west Germany after the transformation process has ended, the capital stock of the enterprise sector would be DM 1,196 billion[4] (Table A5).[5] This is a back-of-the-envelope calculation for the accumulated investment, assuming that the existing capital stock is completely obsolete. Infrastructure capital in west Germany amounted to DM 2,187 billion in 1988 [Sachverständigenrat, 1991b]. This figure includes public buildings and equipment, roads, rail, postal and communication infrastructure and waterways. Using the infrastructure of west Germany as a frame of reference, infrastructure capital in east Germany would amount to DM 547 billion. Assuming that one-third of the capital stock is usable and considering a ten-year period of adjustment, a rough calculation shows that private investment of DM 80 billion and public investment of DM 40 billion per year, i.e., DM 120 billion per year, would be needed.[6]

Self-sustained growth can only start if the obsolete stock variables are rebuilt from scratch. Investment in 1991 was DM 72.4 billion which was 38 percent of the actual east German GNP, but is far too low relative to the potential GNP of DM 650 billion that east Germany might have after the complete adjustment process. Investment per capita was half of the west German figure. More specifically, private investment, which amounted to 50 percent of total investment in east Germany, is too low. For 1992, investment of DM 90 billion is expected [Sachverständigenrat, 1991b].

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[4] The total west German capital stock was DM 11,649 billion in 1990, that of the enterprise sector DM 4,785 billion.

[5] The residual of the gross capital stock of DM 2,218 billion does not relate to the enterprises nor to housing, but refers inter alia to buildings and equipment of the government (DM 816 billion) and to nonprofit organizations (DM 218 billion).

[6] Calculations of public investment do not include environmental protection.

It would be tempting to apply the west German capital-output ratio to determine the investment needed in order to reach a specific growth rate or to calculate the growth effect of a given investment. For instance, applying the west German average capital-output ratio of 4.4 to the investment of DM 90 billion expected for 1992, the increase in GNP will be DM 20 billion. Private investment of DM 45 billion would yield an increase in GNP of DM 17 billion, using the capital-output ratio of the enterprise sector of 2.6. These calculations are misleading because in an economy where the capital stock is rebuilt from scratch, we should expect the output effect of investment to be higher than the average capital-output ratio. Thus, it is more promising to apply the marginal capital-output ratio, which can be expected to be lower than the average ratio. In addition, the marginal capital-output ratios of the late forties and the early fifties is an indication of the output effects that are possible under the most favorable circumstances.

Measuring the marginal output-capital ratio by the increase in GNP to the increase in the gross capital stock, the marginal output-capital ratio shows great variation since 1950. Whereas in the late eighties values were around 0.45, the early fifties saw values larger than 1 (Table A6). This would indicate a situation in which investment would increase GNP by the same amount.

Time lags and bottlenecks. The east German experience reminds us that a supply response needs time as was demonstrated by the two oil shocks. The Erhard reforms of 1948 cannot be used as a frame of reference for a quick take-off, since prior to 1948 adjustment had already taken place to some extent. Industrial output rose from one-quarter of the 1936 level in 1945 to roughly half of the 1936 level in 1948 [Schmieding, 1991]. Moreover, in east Germany special conditions for the depreciation of stock variables prevailed. The exchange rate could not be used as a buffer; wage increases have not been in line with productivity increases.

In the long run, east Germany has a positive growth perspective due to the incentives of the market system, due to the capital accumulation which will be associated with a high growth rate,

and due to the integration in the international division of labor [Siebert, 1991b]. A major issue, however, is to what extent bottlenecks in east Germany hinder investment and prevent the growth process from starting and gaining momentum. These bottlenecks are the uncertainty with respect to property rights, a shortage of location space, a public administration that had (and still has) to be built up, and an insufficient infrastructure in communications and transportation.

Over time, the factors limiting growth will become less important. This can be expected for public administration. A quick improvement in the infrastructure hinges on a number of issues. First, government planning tends to be slow, especially when it involves several layers of government. Second, budgetary processes are time-consuming. Here, privatization of parts of the infrastructure can help in bringing about an improved supply of infrastructure more quickly and more efficiently. Third, larger infrastructure projects in west Germany, such as main highways or new railroad tracks, require up to twenty years from the start of planning to completion. This is mainly due to the institutional set-up of the authorization procedure, including the procedural steps, especially in the administrative court systems. The clash of interest between the growth target and environmental protection is at the root of the problem. It is quite clear that with time horizons of this length, the infrastructure in east Germany cannot be built up quickly. It remains to be seen whether a law attempting to reduce the requirements for the authorization procedure would be successful.

4. Will Privatization Get Stuck?

The systematic issue. Uncertainty about property rights is estimated to be the most important bottleneck to a self-sustained growth process. Three different categories of property are involved: land including buildings (not firms) where the previous owners have a right to be restituted, those firms which will be given back to their previous owners, and state-owned firms whose new ownership has to be established. The systematic problem is that ownership of land and ownership of firms are disjunct and

that the assignment of property titles, i.e., the mapping of objects and owners, may be inconsistent.

The status of the privatization process. There are 1.2 million applications for restitution of the ownership of land. Each of these applications has to be decided on administratively, whereby title records are not up to date and inheritance relationships are rather complex. Moreover, each administrative decision can be challenged in the administrative court system. It is estimated by experts that it will take ten years to clarify these ownership claims.

Reprivatization relates to 17,000 firms of which roughly 4,000 have been given back by September 1991. The most important issue is the privatization of previously state-owned firms. The "small" privatization program, i.e., the privatization of stores, small hotels, etc., has been completed. By January 31, 1992, the Treuhand had privatized 5,584 out of 11,293 firms in the productive sector, i.e., 49.4 percent (see also Table A4). According to the sales contracts, the employment of 970,000 persons and the investment of DM 87 billion is expected. In addition, an investment of DM 30 billion in the energy sector is planned. The Treuhand still has 1.65 million employees, after starting out with 4.08 million. Unfortunately, we have no information on the type and structure of firms that still have to be privatized.

There remains a sizeable task of privatization. The risk now is that the privatization of firms will become more difficult. The filet mignons have been privatized, and less attractive firms remain. In the privatization market, the demand for firms to be sold may be lower. At the same time, more firms will have to be closed. By January 1992, the Treuhand had closed 1,079 firms employing 188,000. The closing of firms will lead to political pressure in the regions affected. But there is also the political demand that firms which cannot be privatized should remain under government ownership, so that the Treuhand would develop into a government trust.

Solutions. Whenever the principle of reinstating the previous owner and privatization are in conflict, a new law (Vermögensgesetz) attempts to give preference to investment and employment. This law may have some positive effect but it does not appear to change the situation fundamentally. Its main result has been to somewhat affect the bargaining position of the previous owner relative to the investor and the Treuhand. As a matter of fact, one solution to the uncertainty about property rights is a contractual arrangement by these three parties whereby still existing risks are allocated between them. For instance, the Treuhand may cover a potential investor against the risk of possibly having to give back parts of his firm to a previous owner (who may not be known today). These contractual arrangements have to be developed on a case-by-case basis. The other solution to the uncertainty about property rights is for an investor to circumvent land or firms loaded with uncertainty by constructing houses or establishing new firms on the green meadow.

The Treuhand has used an informal bargaining approach, which has shortcomings because it is discretionary and because it allows strategic behavior on the part of the buyer. The Treuhand claims that the sale situation is complex and cannot easily be standardized. Moreover, multiple criteria including the sales price, investment and employment guarantees, and the reputation of the buyer supposedly do not allow a formal sales procedure. Instead of informal bargaining, the Treuhand should use a two-stage bidding process in which in the first round it collects all the relevant information on the buyer's willingness to pay, to invest, and to employ. In the second round, a contract specifying investment and employment plans could be auctioned off, with the sales price being the only variable. In many cases, reputational constraints could be introduced in the first round.

The core activity of privatization should be discontinued on December 31, 1994. Firms for which an investor has not been found by then must be closed. Only in rare cases can they be handed over to the respective states (Länder). It should be made explicit, however, that federal funds are not available for those firms

owned by the Länder. If the Länder wish to subsidize these firms, the subsidies must compete directly with other expenditures of the Länder.

5. An Explicit Structural Policy?

The opportunity cost of a conservationist policy. The breakdown of the east German economy has led to the political call for an explicit structural policy for east Germany. The main argument is to soften the adjustment process for firms in order to reduce the negative impact on employment.

Such a policy would perpetuate the inefficiency of the socialist planning system because it would de facto be oriented towards the old structures. The option of modernizing east Germany would be lost. East Germany would remain a problem area for many years to come.

The inefficient firms would have to be subsidized heavily. Being determined in the political process, subsidies will become locked in, and it will be extremely difficult to reduce them in the future. Moreover, managers and entrepreneurs will be engaged in rent seeking instead of fulfilling their role of innovating and implementing new allocations of production factors.

Subsidized old firms get in the way of new firms. They block location space that is needed for the creation of new firms. This is especially relevant when location space is in short supply due to the uncertainty about property rights. We also know from West German sectoral policy that subsidized firms tend to set the wage rate of a region. Subsidies allow them to pay a high wage, which impedes the new firms. Last but not least, subsidized firms often compete with new firms on the product markets.

Uncoupling the protection of people and the protection of firms. The alternative to such a conservationist policy is to uncouple the protection of people and the conservation of inefficient firms. Transfers to people will ease the burden of adjustment. Basically, this approach is followed in the German case with

transfers to those on short-time work and active forms of employment policies (among them so-called "employment companies") relating to 400,000 persons at the end of 1991. In 1991, DM 18.5 billion were spent on active employment policies, excluding DM 7.8 billion for unemployment benefits.

Industrial targeting. There is not only a political call for a structural policy for the existing firms, but also additional pressure for a more active role of government in developing future industries. It is argued that the government should decide which sectors should be developed and which industries should be targeted for the future. This approach is very likely to be a severe failure. First, the government does not have information on which products will sell well, which production procedure will be very efficient, and which industry will flourish in the future. The root of the issue is the Hayekian problem of information on future economic and technological possibilities. This information is not available today, and the incentive mechanism is decisive for revealing this information. Industrial targeting will forego competition as an exploratory device [Hayek, 1968]; by not allocating the risks of failure to the investor such a policy would set the wrong incentives.

Implications for fiscal policy. If decisions on the future sectoral structure are politicized, it can also be expected that the controlling mechanism of markets will be pushed to the background. Consider the case that a political decision has been taken and that this decision turns out to be an economic failure; then it is very likely that the political process will attempt to cover up its previous decision and legitimize it ex post by granting new subsidies. Thus, there is an endogenous process that potentially leads to inefficiency.

Both a conservationist structural policy and industrial targeting would have strong implications for fiscal policy. Since the existing firms are inefficient, the financial means needed would be immense and subsidies would have to be provided for a longer period. They would trickle away without making the east German industry more competitive. The sums required would dominate

German fiscal policy for the years to come and the necessary consolidation of the budget would be made much more difficult. This is a severe risk for German economic policy.

Spatial hysteresis? Related to the problem of structural policy is the issue whether east Germany will be characterized by spatial hysteresis. In such a scenario the given spatial structure would not change very much. Is such a scenario likely?

Some areas in east Germany will have an economic-geographic position more in the center. Berlin has the potential to be a strong growth pole due to its role as the capital of Germany. Areas with a favorable position in the hierarchy of infrastructure and with policy-induced centers of administration like the capitals of the newly formed federal states in east Germany are also likely to develop into growth poles. The former border regions will be more intensively integrated into west Germany and this will improve their economic conditions. We can also expect that areas well endowed with skilled labor and engineering talents will develop favorably, among them Sachsen and Thüringen, which were the birth places of German engineering. Some pockets such as Eisenach, Mosel near Zwickau and Ludwigsfelde are already showing positive signs of development.

Restructuring will be much more difficult in old industrial areas with a heavy concentration of inefficient firms. Due to the extreme specialization of firms in east Germany, these industrial areas will often have a monostructure in which one industry dominates (shipbuilding at the Baltic Sea, steel industry in Eisenhüttenstadt, textiles in Sachsen, chemistry in Bitterfeld). Where ecological damages of the past are concentrated, they impede restructuring (Bitterfeld). The rural areas in the northern part of east Germany represent another aspect of monostructure. Finally, regions adjoining Poland and Czechoslovakia will become relatively more peripheral.

In these problem areas, spatial hysteresis cannot be ruled out completely. The outcome will depend on whether the Treuhand will succeed in privatizing firms in the problem regions and on

whether structural policy will perpetuate the existing inefficient structures.

6. Will the Second Labor Market Persist?

A differentiation of wages. Wages are expected to reach an average level of 70 percent of the west German wage level in mid-1992. Although it seems difficult to postpone the equalization of wages for long, policy must attempt to delay the adjustment. The best option would be to have a strong wage differentiation with respect to regions, sectors and firms. For instance, contract wages could rise at some base rate; markets could differentiate the wage rate. Alternatively, wage contracts could be opened up, allowing a deviation to a lower wage for firms which are in trouble; this can only be brought about if some elements of German labor market regulation, such as declaring labor contracts as mandatory, are temporarily not applied.

The second labor market. In east Germany, a second labor market has been established with an artificial, government-sponsored demand for labor. The policy instruments used are transfers to short-time workers amounting to roughly 90 percent of previous salaries up to June 1991. Retraining of people, including retraining in "employment companies," is another policy measure. At the end of 1991, 400,000 people were covered by retraining activities. In addition, 360,000 people were in a public work program. The government-sponsored activities of the second labor market, for instance, "employment companies," compete with the regular sector of the economy; they compete in the goods markets because they produce commodities that could be produced by private firms. And they compete in the labor market because they pay nearly the same wage as the regular sector. Thus, the incentive to move out of the second labor market is small.

The emergence of the second labor market is the result of uncoupling the protection of people from subsidizing old firms. In order to prevent the risk of wasting resources in preserving the inefficient old firms, a new risk arises. For instance, an organizational structure of "employment companies" is being

established with a three-level structure: there is an "employment company" on the level of each state, in each labor-office district, and on a more local level. These organizational structures will have their own political weight, and it may be difficult to undo them when the economic situation improves.

One policy instrument, namely the very generous short-time work arrangement which was specifically designed to east Germany[7] and which affected two million people at its climax in April 1991, was discontinued at the end of 1991. With respect to this policy instrument, the second labor market was not perpetuated.

The role of labor market institutions. The risks arising from wage policy and from a second labor market can only be understood in the context of the institutional arrangement of the labor market in Germany. Employment relations with governmental "employment companies" are interpreted as regular labor contracts; consequently, it is argued that the second labor market cannot have a wage different from the first labor market. Wage contracts are declared mandatory by the government, thus applying to nonunion workers as well. As a consequence, any differentiation of wages between regions and firms is not possible. So far, it is nearly impossible for firms that are in trouble to obtain a firm-specific contract. Another important feature of the German labor law is that the new owner of a firm inherits the old wage contracts and takes over people actually employed according to Article 613a of the German Civil Code. The new owner cannot lay off employees and has to pay the same wage. This is definitely not an incentive to acquire state-owned firms. Even if the new owner leaves the employer's association, he is bound by the wage contracts bargained by his predecessors, i.e., the managers of the old planning system. It has not been possible to suspend Article 613a of the German Civil Code.[8]

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[7] § 63, 5 Arbeitsförderungsgesetz Ost; now § 63, 4 applies.

[8] Article 613a has been suspended temporarily in the case of bankruptcy.

The influence of German labor market regulation on the privatization and the restructuring of firms in east Germany points to the more general question of how the adjustment of east Germany is negatively affected by the institutional arrangement that has developed in west Germany. Rules that may be fitting for a relatively rich economy with a rather continuous growth process and gradual structural adjustment to the world economy are not necessarily applicable to an economy in transition [Sachverständigenrat, 1991b]. This relates not only to the labor market, but also to the political and judicial process of providing infrastructure, to regulations in the transportation and telecommunications sectors, to the institutional arrangement of the energy sector, as well as to other areas. Another important impact of the institutional arrangement of the west German economy is that in principle these rules define the protection level of people, i.e., unemployment compensation, social welfare payments, etc. Thus, these institutional arrangements define something like the social minimal income or the reservation wage. They have definitely influenced the transfers to east Germany.

7. The Fiscal Policy Risk

Budget deficit. All the risks discussed so far will have an impact on fiscal policy. Public transfers to east Germany are estimated at DM 145 billion for 1992, with gross transfers amounting to DM 225 billion.

The overall German government budget deficit, including the federal, state and municipal levels as well as the social security system, amounted to DM 130 billion in 1991; this is 4.6 percent of GNP (Table 2). The 1992 overall governmental budget deficit is expected to be DM 160 billion, that is 5.4 percent of GNP. These data include the deficit of the German Unity Fund and of the Treuhand, which are estimated at DM 31 billion for 1992. If the governmental telecommunications service and the railroads are included, the public sector capital demand will amount to roughly DM 180 billion in 1992.

Shadow budgets. Budget risks relate to several factors (Table 3). One is the deficit of the Treuhand, which will increase if the

Table 2 - Budget Surplus/Deficit of the Public Sector in Germany (bil. DM)

	1991	1992
Federal	-52	-41
States	-21	-28
Municipalities	-11	-16
ERP	- 7	- 7
Treuhand	-20	-31
Credit Processing Fund	0	- 3
Social Security System	12	-10
German Unity Fund	-31	-24
Total	-130	-160

Source: Sachverständigenrat [1991b]; Boss [1991]; own calculations.

Table 3 - Financial Burden to the Public Sector(a) from Shadow Budgets and from Potential Expenditures after 1992 (bil. DM)

	Per year	Specific year (end of year)
Treuhand	30	1994:200-250
Labor market policies	3	
Credit Transformation Fund		1993: 100
German Unity Fund		1994: 95
End of moratorium on mortgages		1993: 50
Eastern Europe		
- Default on debt	3	
- Nonpayment of export credits	2	
- Transfers	5	
Increased contributions to the European Community	5	

a) Total of the federal, state and municipal budgets.

Source: Boss et al. [1992]; own calculations.

Treuhand does not succeed in privatizing firms. In 1991, a deficit of DM 20 billion was recorded. Including the deficit of 1990, the debt of the Treuhand was DM 25 billion at the end of 1991. In addition, the Treuhand has guaranteed loans for DM 30 billion; a large part of these guarantees will become effective. Old debts of firms that are to be or already have been privatized will be taken over by the Treuhand; this debt amounts to DM 70 lion. In addition, compensating claims of firms "for losses due to currency conversion" of DM 20 billion have to be added. (This position enters the asset side of the firms.) Taking environmental liabilities of DM 45 billion into account, it is estimated that the Treuhand may accumulate a debt of DM 250 billion up to 1994. Revenue of DM 50 billion is expected from the selling of land.

Another risk is the financing of labor market policies. The social security system will have a deficit of DM 10 billion in 1992 mainly because of additional labor market policy measures and because of additional benefits for the elderly in east Germany; the contributions to the social security system will have to be raised notably in the first half of the nineties in order to avoid budget deficits. This will have a negative impact on the demand for labor and on economic activity in general.

At the end of 1993, the Credit Processing Fund (Kreditabwicklungsfonds), which manages the liabilities of the former GDR state, will have to be taken over by the Treuhand; if the Treuhand has not accumulated assets as can be expected, half of the Credit Processing Fund will have to be taken over by the federal government and the other half by the new Länder. It is estimated by the Federal Ministry of Finance that a debt of DM 100 billion will have been accumulated by the fund. The German Unity Fund, funded by the federal government and the Länder, will have accumulated DM 95 billion at the end of 1994. The moratorium on mortgages for the housing sector relating to a debt of DM 50 billion will stop in 1993.

But there are other risks as well. One is defaults on East European debts, especially the former Soviet Union debt, and a nonpayment of export credits. In both cases, the government will be

involved because debt and export credits were guaranteed by the government. In addition, transfers may be needed for Eastern Europe. This may become relevant when migration from Eastern Europe picks up. Last but not least, contributions to the European Community are likely to increase, for instance due to the distributive policies in preparation of the European Monetary Union.

The debt of all public budgets, which amounted to DM 929 billion in 1989, will have reached DM 1,800 billion - 1.8 trillion - by 1994. Thus, public debt will double within five years. In relative terms, the ratio of public debt to GNP will rise from 41 percent (1989) to 53 percent (1994). Public expenditures relative to GNP has risen from 45 percent (1989) to 50 percent (1991).

The need for consolidation. The risk for the future is that the budget deficit will have a strong impact on economic policy. The government may lose its maneuvering space due to high interest payments. Unexpected expenditures may arise. Government revenue may fall due to a less favorable business cycle. Financing expenditures may raise either interest rates or taxes and this will choke off investment. The most important danger is that the financial constraints will develop into a severe burden for the west German economy, which has to finance transfers to east Germany. This could trigger a vicious circle in which the problems of the east eventually influence the efficiency of the west.

In order to reduce this risk, a consolidation strategy is required [Sachverständigenrat, 1991b]. The principal task must be to bring down the budget deficit/GNP ratio. This should be done by cutting expenditures. The politically easiest way to do this is to cap the nominal increase in government expenditures. Whereas the federal government is attempting to keep the nominal increase of expenditures below 3 percent, there is no mechanism available by which the Länder and the municipalities in west Germany can be forced to reduce their spending. Instead of limiting the increase of expenditures, it would be more appropriate to cut expenditures including subsidies and to restructure expenditures under the new economic environment of a united Germaly. In many areas, west Germany and east Germany compete for investable

funds. This holds, of course, for infrastructure projects in west Germany which may be postponed for a year or two; it applies to subsidies for specific west German sectors, such as the hard coal industry, which competes directly with the brown coal industry in east Germany, and it holds for regional policy subsidies going to regions in west Germany that are better off than areas in east Germany. So far, the political process has not had enough vigor to restructure governmental expenditures. The German public has not yet understood that the unification of Germany has changed some conditions that were basic to West German policies and that no longer prevail.

Shifting investment to the private sector. Privatizing infrastructure is an interesting option to reduce governmental expenditure; in east Germany, it would have the additional advantage of providing infrastructure much more quickly. The communications industry could have been privatized, financing itself by means of user charges. Unfortunately, this policy has not been followed. German economic policy has not been daring and innovative enough to introduce the privatization of some parts of infrastructure. Privatization still is an option in the transportation sector, for instance, with respect to airports and other areas of transportation such as major roads or railroad connections; privatization can also be used for industrial parks and local environmental projects like water purification plants. In these cases, the government would only have to set the frame of reference under which private projects can be undertaken.

Intergovernmental transfers in a federal system. An important issue for the future is the division of tasks among the federal government, the states and the municipalities with respect to public expenditure and revenue. In the long run, a new system of intergovernmental transfers (Finanzausgleich) will have to be developed for Germany, with new rules for allocating government income and expenditure to the three layers of government. In the present system, the states only have a minor authority in determining their revenue. More autonomy on the revenue side, and consequently on the expenditure side, could be introduced, for instance, by means of a state-specific income tax rule. This would

bring about a process of institutional competition among states both on the expenditure and the revenue side. In the very long run, such an approach could go together with a redefinition of states so that they are viable.

8. Conclusions

The review of risk factors of German economic policy analyzed in this paper shows the solution must be to reduce these risks by implementing the appropriate policy measures. In the sense of a causal therapy, preference must be given to stimulating the renewal of the stock variables that were made obsolete in the transition to a market economy. Thus, the goal must be to bring about private investment, to reduce the bottlenecks hindering the self-sustained growth process, to continue the privatization process and to abstain from structural policy. The second labor market must be scaled down over time, and, of course, a delay of the equalization in wages between east and west Germany would be most helpful in bringing about an increase in economic activity in east Germany. With respect to fiscal policy, a budget situation that would become uncontrollable must be prevented.

Two opposite scenarios for united Germany were drawn very early in the discussion [Siebert, 1990]: the Mezzogiorno and the New Frontier. In the worst case, existing inefficient firms are subsidized in order to protect people. The inefficiency of the east German economy carries on and the opportunity to modernize it is squandered. Then, a severe drain on Germany's resources would affect the maneuvering space of fiscal policy in the future. In the alternative scenario, the positive effects of German unification prevail after the bottlenecks have been overcome. Unification represents a New Frontier, an investment opportunity or in Schumpeter's [1934] terms a case of "creative destruction." Integration gains, the new economic system and capital accumulation will all play their role. Economic policy will decide which scenario will eventually materialize.

Appendix

Table A1 - Adjustment in Transition, Data for East Germany (a)

	GDP (b)	Industrial output (c)	Total employed (d)	Self-employed, unpaid family workers (d)	Employees (d)	Net emigration (e)	Commuters	Short-time workers	Registered unemployed	New firms (f)	Consumer price index
	bil. DM	1990Q3 = 100	000	000	000	000	000	000	000		1989=100
7/90		109.1						656	272	33,542	98.0
8/90	50.21	98.7	8,762	362	8,400	- 52	101	1,500	361	27,866	97.8
9/90		93.8						1,729	445	26,127	99.0
10/90		93.6						1,704	537	25,204	100.6
11/90	48.19	97.3	8,221	418	7,789	- 81	170	1,710	589	22,992	100.8
12/90		84.1						1,794	642	22,073	101.9
1/91		65.6						1,841	757	18,673	108.9
2/91	39.00	61.1	7,922	440	7,369	- 82	272	1,947	787	18,661	109.7
3/91		65.3						1,990	808	17,688	111.4
4/91		57.9						2,019	837	21,625	112.6
5/91	37.44	61.0	7,631	460	7,049	- 58	286	1,968	842	17,140	113.4
6/91		63.2						1,899	843	15,445	114.1
7/91		62.6						1,611	1,069	14,930	115.1
8/91	38.65	60.6	7,504	480	6,684	- 36	336	1,449	1,063	12,086	115.2
9/91		66.0						1,333	1,029	10,756	115.4
10/91		68.9						1,200	1,049	.	126.9
11/91	38.70	.	7,309	500	6,366	- 31	386	1,103	1,031	.	127.6
12/91		.						1,035	1,038	.	.
1/92								520	1,343		

(a) Including East Berlin - (b) GDP in prices of the 2nd half of 1990 - (c) Not seasonally adjusted - (d) Including commuters - (e) Changes against previous quarter - (f) Net registration.

Source: Statistisches Bundesamt [1992]; DIW [1992]; Sachverständigenrat [1991b].

Table A2 - Nominal GNP and GDP of East(a) and West Germany, 1991

	East Germany		West Germany	
	bil. DM	percent	bil. DM	percent
	GNP and expenditure items			
Gross national product	193.1	100.0	2 615.2	100.0
Private consumption	196.3	101.6	1 379.1	52.7
Government consumption	90.2	46.7	469.4	17.9
Investment in				
machinery and equipment	36.0	18.6	263.8	10.1
construction	36.4	18.9	306.0	11.7
Aggregate domestic demand	361.2	187.0	2 427.3	92.8
Exports	59.2	30.7	1 009.1	38.6
Imports	227.3	117.7	821.1	31.4
Gross domestic product	183.0	---	2 599.3	---
	Gross value added by origin			
Gross value added	197.8	100.0	2 498.1	100.0
Agriculture, forestry and fishing	3.3	1.7	32.2	1.3
Manufacturing, energy, mining and construction	67.5	34.1	999.8	40.0
Trade, transportation and communication	33.1	16.7	359.2	14.4
Services	47.0	23.8	771.5	30.9
Government, private Households and nonprofit organizations	46.8	23.6	335.5	13.4

(a) Including East Berlin.

Source: Statistisches Bundesamt [1991 and 1992].

Table A3 - Average Monthly Wage Per Employee in East Germany (a)

	Total economy (b)		of which: mining and manufacturing (c)	of which: construction (c)	of which: trade (c)	Note: West Germany, total economy (b)
	DM per month	rate of change(d)	DM per month			
1989						
1st quarter	1,271	.	.	.	.	2.968
2nd	1,118	.	.	.	.	3.108
3rd	1,125	.	.	.	.	3.135
4th	1,176	.	.	.	.	3.557
1990						
1st quarter	1,400 (e)	10.1	1,090	1,431	1,276	3,081
2nd	1,409 (e)	26.0	1,235	1,437	1,281	3,202
3rd	1,269	12.8	1,362	1,702	1,345	3,437
4th	1,411	20.0	1,591	1,933	1,503	3,961
1991						
1st quarter	} 1,573	} 12.0	1,612	2,034	1,589	3,319
2nd	}	}	1,801	2,454	1,672	3,602
3rd	} 2,133	} 59.0	1,898	2,740	1,927	3,663
4th	}	}	2,006	2,898	1,988	4,238

(a) Figures for 1989 and the first two quarters of 1990 in Ostmark, figures since the third quarter of 1990 in D-mark. Data for the total economy and its sectors are not fully comparable. Data not seasonally adjusted. - (b) Wage sum per employee (excluding short-time workers) - (c) Standard wage rate - (d) Percentage change against corresponding quarter of the previous year - (e) Including special payments due to the discontinuation of funds and reserves prior to the currency conversion.

Source: Statistisches Bundesamt [1991]; DIW [1992]; own calculations.

Table A4 - Privatization of Firms (December 1991)

State	Privatized firms			Revenue from privatization		Employment "guarantees"		Investment "guarantees"		Total number of Treuhand firms(b)	
	number	% of firms privatized so far in all states	ratio (a)	bil. DM	% of total revenue	number of employees	% of total employees	bil. DM	% of total investment	number	% of total number of firms
Mecklenburg-Vorpommern	798	15.3	66.4	1.1	5.6	72,213	7.8	4.2	5.0	1,201	11.4
Brandenburg	795	15.3	56.7	2.9	14.9	203,366	21.9	20.6	24.5	1,401	13.3
Sachsen-Anhalt	942	18.1	57.8	2.1	10.8	111,422	12.0	10.4	12.4	1,631	15.5
Thüringen	896	17.2	48.8	1.5	7.7	110,777	11.9	6.4	7.6	1,836	17.4
Sachsen	1,452	27.9	42.3	5.7	29.2	257,432	27.7	26.3	31.3	3,429	32.5
Berlin (East)	327	6.3	35.0	6.0	30.8	167,086	18.0	12.1	14.4	933	8.9
No category	--	--	--	0.2	1.0	7,866	0.8	4.0	4.8	106	1.0
Total	5,210	100.0	49.4	19.5	100.0	930,162	100.0	84.0	100.0	10,537	100.0

(a) Privatized firms as percent of all Treuhand firms in the respective state. - (b) As of September 4, 1991.

Source: Treuhandanstalt.

Table A5 - Capital Stock and Investment in East Germany and West Germany

	West Germany	East Germany	East German capital stock after adjustment (a)
	1990	1988	
	bil. DM	bil. M	bil. DM
1. Gross domestic product			
Total	2,404	346	
Enterprises (without housing)	1,835	--	
Goods-producing sectors (mining, manufacturing, construction, electricity, gas and water)	942	200(b)	
2. Gross investment			
Total	522	95	
Enterprises (without housing)	337	68	
Goods-producing sectors	137	46	
Housing	123	12(c)	
3. Gross capital stock			
Total	11,649(d)	1,635(d)	2,912
Enterprises (without housing)	4,785(c,d)	1,300(e)	1,196
Goods-producing sectors	2,072(c,d)	780(d)	518
Housing	4,646(c,d)	--	--
Residual (f)	2,218		
for information: Public infrastructure	2,187(g)		547
4. Capital-output ratio			
Total	4.4	5.2	
Enterprises (without housing)	2.6	--	
Goods-producing sectors	2.2	3.9	

(a) Calculated as 25 percent of the West German capital stock in 1990. - (b) Including goods-producing crafts. - (c) New construction and modernization. - (d) Evaluated at replacement costs, yearly averages, excluding roads, waterways and civil engineering, including rail and postal service. - (e) Capital stock at 1986 prices. - (f) The residual is not identical to public infrastructure. It includes the capital stock of nonprofit organizations; it does not include the infrastructure of the railroads and the telecommunications service. - (g) Including roads, waterways, sewage systems, as well as rail and telecommunications systems; for 1988.

Source: Statistisches Bundesamt [1990]; Staatliche Zentralverwaltung [1989]; own estimates.

Table A6 - Gross Capital Stock, GNP, and Marginal Output-Capital Ratios for West Germany, 1950-1990 (billion DM)

Year	Gross capital stock	Capital stock of the housing sector	Difference	GNP	Marginal output-capital ratio(a)
1950	1,704	694	1,010	378.1	-
1951	1,765	726	1,039	413.5	1.22069
1952	1,833	762	1,071	450.6	1.159375
1953	1,913	806	1,107	488.3	1.047222
1954	2,008	855	1,153	522.8	0.75
1955	2,122	910	1,212	584.7	1.049153
1956	2,254	970	1,284	628.6	0.609722
1957	2,392	1,033	1,359	665.6	0.493333
1958	2,533	1,098	1,435	692.6	0.355263
1959	2,687	1,167	1,520	744.6	0.611765
1960	3,031	1,314	1,717	859.8	0.584772
1961	3,224	1,389	1,835	896.4	0.310169
1962	3,428	1,464	1,964	937.5	0.318605
1963	3,635	1,539	2,096	963.3	0.195455
1964	3,856	1,619	2,237	1,026.4	0.447518
1965	4,095	1,704	2,391	1,080.3	0.35
1966	4,338	1,793	2,545	1,111.1	0.2
1967	4,569	1,884	2,685	1,108.4	-0.01929
1968	4,790	1,975	2,815	1,172	0.489231
1969	5,026	2,065	2,961	1,259.8	0.60137
1970	5,285	2,154	3,131	1,322.8	0.370588
1971	5,564	2,248	3,316	1,363.1	0.217838
1972	5,853	2,352	3,501	1,422.3	0.32
1973	6,143	2,464	3,679	1,491.1	0.386517
1974	6,409	2,567	3,842	1,491.9	0.004908
1975	6,645	2,656	3,989	1,473	-0.12857
1976	6,873	2,741	4,132	1,554.7	0.571329
1977	7,108	2,829	4,279	1,594.4	0.270068
1978	7,350	2,920	4,430	1,649.4	0.364238
1979	7,606	3,014	4,592	1,715.9	0.410494
1980	7,873	3,113	4,760	1,733.8	0.106548
1981	8,130	3,210	4,920	1,735.7	0.011875
1982	8,363	3,303	5,060	1,716.5	-0.13714
1983	8,587	3,395	5,192	1,748.4	0.241667
1984	8,810	3,490	5,320	1,802	0.41875
1985	9,027	3,580	5,447	1,834.5	0.255906
1986	9,248	3,663	5,585	1,874.4	0.28913
1987	9,475	3,745	5,730	1,902.3	0.192414
1988	9,710	3,827	5,883	1,971.8	0.454248
1989	9,963	3,914	6,049	2,046.8	0.451807
1990	10,245	4,004	6,241	2,138.7	0.478646

(a) Calculated as additional income per year in proportion to the additional capital stock.

Source: Sachverständigenrat, unpublished.

References

AKERLOF, G. A., A. ROSE, J. YELLEN, and H. HESSENIUS, "East Germany in from the Cold: The Economic Aftermath of Currency Union." Brookings Papers on Economic Activity, Vol. 1, 1991, pp. 1-87.

BOSS, A., "Mittelfristige Perspektiven der Finanzpolitik." Die Weltwirtschaft, Vol. 2, 1991, pp. 57-71.

--, M. FISCHER, E. LANGFELDT, E. NITSCHKE, K.-W. SCHATZ, and P. TRAPP, "Bundesrepublik Deutschland: Stagnation im Westen - Produktionsanstieg im Osten." Die Weltwirtschaft, Vol. 1, 1992, pp. 23-39.

COLLIER, I.L., and H. SIEBERT, "The Economic Integration of Post-Wall Germany." The American Economic Review (Papers and Proceedings), Special Issue, Vol. 81, 1991, pp. 196-201 (also Kiel Working Paper No. 462).

DEUTSCHE BUNDESBANK, Monatsberichte, Frankfurt, various issues.

DEUTSCHES INSTITUT FÜR WIRTSCHAFTSFORSCHUNG (DIW), Sozialprodukt und Einkommenskreislauf I/1989 bis IV/1991. Vierteljährliche volkswirtschaftliche Gesamtrechnung für Ostdeutschland. Berlin, February 1992.

HANSEN, A. H., "The Stagnation Thesis." In: Readings in Fiscal Policy, Selected by a Committee of the American Economic Association. London, 1955, pp. 540-557.

HAYEK, F. A. von, Der Wettbewerb als Entdeckungsverfahren. Kieler Vorträge, Neue Folge 56, Institut für Weltwirtschaft, Kiel, 1968.

LIPSCHITZ, L., and D. MCDONALD (Eds.), German Unification: Economic Issues. International Monetary Fund, Occasional Paper No. 75, Washington, 1990.

LONG, N. van and H. SIEBERT, A Model of the Socialist Firm in Transition to a Market Economy. Institut für Weltwirtschaft, Kiel Working Paper No. 479, Kiel, 1991.

MAURER, R., B. SANDER, and K.-D. SCHMIDT, "Privatisierung in Ostdeutschland - Zur Arbeit der Treuhandanstalt." Die Weltwirtschaft, Vol. 1, 1991, pp. 45-66.

SACHVERSTÄNDIGENRAT ZUR BEGUTACHTUNG DER GESAMTWIRTSCHAFTLICHEN ENTWICKLUNG, Auf dem Wege zur wirtschaftlichen Einheit Deutschlands. Jahresgutachten 1990/91. Stuttgart, 1990.

--[1991a], Marktwirtschaftlichen Kurs halten. Zur Wirtschaftspolitik für die neuen Bundesländer. Sondergutachten. Stuttgart, 1991.

--[1991b], Die wirtschaftliche Integration in Deutschland. Perspektiven - Wege - Risiken. Jahresgutachten 1991/92. Stuttgart, 1991.

SCHATZ, K.-W., and K.-D. SCHMIDT, "Real Economic Adjustment of the East German Economy in the Short and in the Long Run." In: H. Siebert (Ed.), The Transformation of Socialist Economies, pp. 369-394, Tübingen, 1992.

SCHEIDE, J., "Die westdeutsche Konjunktur schwächt sich ab - Gibt es Parallelen zu den Rezessionen 1974/75 und 1980/82?" Die Weltwirtschaft, Vol. 2, 1991, pp. 42-56.

SCHMIEDING, H., Die ostdeutsche Wirtschaftskrise: Ursachen und Lösungsstrategien. Anmerkungen im Lichte der westdeutschen Erfahrungen von 1948 und des polnischen Beispiels von 1990. Institut für Weltwirtschaft, Kiel Working Paper No. 461, Kiel, 1991.

SCHUMPETER, J. A., The Theory of Economic Development: an Inquiry into Profits, Capital, Credit, Interest, and the Business Cycle. Cambridge, Mass., 1934.

SIEBERT, H., The Economic Integration of Germany - An Update. Institut für Weltwirtschaft, Kiel Discussion Paper No. 160a, Kiel, 1990.

--[1991a], "German Unification: The Economics of Transition." Economic Policy, Vol. 13, 1991, pp. 287-340.

--[1991b], "The Integration of Germany: Real Economic Adjustment." European Economic Review, Vol. 35, 1991 pp. 591-602.

--[1991c], The New Economic Landscape of Europe. Oxford, 1991.

--[1991d], The Transformation of Eastern Europe. Institut für Weltwirtschaft, Kiel Discussion Paper No. 163, Kiel, 1991.

--, Die reale Anpassung bei der Transformation einer Planwirtschaft. Institut für Weltwirtschaft, Kiel Working Paper No. 500, Kiel, 1992.

--, H. SCHMIEDING, and P. NUNNENKAMP, The Transformation of a Socialist Economy: Lessons of German Unification. Institut für Weltwirtschaft, Kiel Working Paper No. 469, Kiel, 1990.

STAATLICHE ZENTRALVERWALTUNG FÜR STATISTIK, Statistisches Jahrbuch 1989 der DDR. Berlin, 1989.

STATISTISCHES AMT DER DDR. Monatszahlen, Ergebnistabellen und Grafiken, various issues, Berlin.

STATISTISCHES BUNDESAMT, Fachserie 18, Volkswirtschaftliche Gesamtrechnungen, Reihe 1.1., Konten und Standardtabellen. Wiesbaden, various years.

WYPLOSZ, C., "A Note on the Real Exchange Rate Effect of German Unification." Weltwirtschaftliches Archiv, Vol. 127, 1991, pp. 1-17.